

Engineering Weekly Report 3/23/2023 - 3/30/2023

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - 500055 - VARS, M3/RS, DSG
 - Fixed open video from vars-gridview
 - Fixed loading of ML-generated annotations in vars-gridview
 - 902002 - FathomNet
 - Set up development environment for FathomNet/OVAI QSCP service
 - 902204 - Scalable Robotics
 - Wrote LCM WebSocket server for future webapp
 - Implemented pose estimation of AprilTags for Mola ground truth pose
 - Ran ROS2 RTAB-Map on Pacific Northwest full survey dataset
 - Out of Office
 - Volunteering at Bayview Academy Tech Fest, 2023-03-23
 - Volunteering at FRC competitions for York school, 2023-03-31, 2023-04-06, 2023-04-07
 - Jury duty 2023-04-03
- Francois Cazenave
 - 901405 - PowerBuoy Development
 - Preparing the buoy for deployment
 - 902106 - Niobicon-Based AUV Docking Development
 - Assembling buoy
- Danelle Cline
 - Out of Office
 - out-of-office vacation April 3-7th
- Duane Edgington
 - Out of Office
 - Vacation: March 21 - 31. Back in office April 3.
- Jon Erickson
- Kevin Gomes
 - 200105 - Core Navigation Data - MDUC
 - Wrote a small Python app that listens for LCM messages, converts them to JSON and pushes over websockets to browsers.
 - Met with Kevin B and Carlos to talk about LCM web viewer coordination.
 - Working on coming up with full stack application architecture for data related apps
 - 300057 - Mooring Maintenance
 - Some troubleshooting of the inductive CTD string.
 - 300070 - DMO Divisional Support - Ventana
 - Monitored today's first dive back in the water
 - 901009 - CANON
 - Planning meeting for May deployment

- Fixed bug with ESRI layer and deployed to production
 - Overhead
 - Weekly IS meeting
 - Met with IP lawyers to discuss licensing and data sharing. More work is coming on this.
 - Quarterly check in meetings with my group
 - Documentation for Telepresence and bring up of services that had stopped when we switched over to the spare rcnavproc1 machine on the Carson.
 - Out of Office
 - Mar 30, 31: Vacation
 - Aug 28-Sep 12: Vacation
- Andy Hamilton
- Kent Headley
 - 300057 - Mooring Maintenance
 - after bench testing GPS driver mods, tagged a release and installed on Jared's test setup.
 - Working w/ Dave French to troubleshoot metsys wind sensor issues
 - 300078 - DMO Divisional Support - AUV
 - helped Rob to get simulation running to investigate pitch oscillation encountered on MidAtlantic cruise
 - 902204 - Scalable Robotics
 - a few minor fixes/features for Gemini driver as Bastian continues testing
 - Worked with DJ to get new Gemini sonar software installed on the Carson; there may be a window of opportunity to collect some Gemini data during Ventana dives this week.
 - Overhead
 - Screening calls (4), working on interview panel
 - Misc admin
 - Out of Office
 - vacation (4/28 - 5/1)
- Rich Henthorn
 - 901405 - PowerBuoy Development
 - Simulation logging - passed baton to andermi for gazebo launch params and launch command
 - Addressing issues as they come up
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - Weekly meeting
 - Install python image processing tools on target
 - Turns out we need to upgrade OS and main CPU board
 - Ordered upgraded main processor CPU (7250-V3)
 - 902306 - SINKER
 - Weekly Meeting
 - Overhead
 - Configuring phantom Ubuntu system for multiple displays
 - Out of Office
 - May 8 : SES deployment near MARS node
 - June 28: SES recovery near MARS node
 - June 29 - July 10: Vacation
 - July 24 - Aug 3: Vacation, WFH
- Brett Hobson
- Scott Jensen
 - 706008 - READI-net
 - Lots of progress on many fronts
 - New clamp design taking shape and nearing a build stage

- Cylinder design is coming together
 - Fluid control with duck bill prototype is under testing and showing promise.
 - MoSCoW lists have been collated and sent to USGS
- 771131 - Great Lakes PCM/HAB
 - Wiring is beginning
- 901405 - PowerBuoy Development
 - First BMS prototype PCB has been sent out for fabrication
- Overhead
 - E-Tech interview candidate selection
- Out of Office
 - March 31 - April 6
- Brent Jones
- Chad Key
- 901101 - Seafloor Mapping
 - RevB boards for LASS are being designed
- 901206 - Coastal Profiling Float
 - Made significant progress on the LHE testing; now starting to document the process
 - Planning for primary battery testing
- 901704.99 - Benthic Observing System Maintenance
 - Set up PDU for further testing of the power issue
- 901700 - Acoustic Ecology
 - Working with Roman M on the design of a shielded housing for the external IMU
- Paragon Battery Upgrades
 - Awaiting final OK from Battery Safety Committee on proposed system
 - Finalizing documentation for DMO proposal
- Overhead
 - Multiple zoom interviews for the E-tech position
- Brian Kieft
- 708143 - CA Current HABS
 - Prepping for Monday. 3 LRAUVs go out to scout followed by ESPs on Apr 5/10.
- 902101 - LRAUV Technology Development and Fleet Operations
 - Lots of offshore testing last week. Recovered everything Friday.
 - Debugging satcomms issue on Makai. It's involved.
 - Debugging range closing docking issue with Rob. Solved and ready for test at sea
- Overhead
 - Pyxis DVL fix for WHOI
 - General configuration fixes for WHOI as they plan an upcoming sea trial and deployment
 - Hosting WHOI team next week
 - Working with GLERL team next week on ASV testing.
 - Candidate screening calls this week
- Denis Klimov
- 300083 - DMO Divisional Support - LRAUV
 - Two debugged battery packs seem to be operating so far.
- 901112 - Monterey Bay Time Series
 - Software update for the IFCB instrument had created some problems which were eventually resolved. We are continuing testing the software and started equalizing the instrument to the seawater in a preparation for the upcoming deployment
- 902004 - Planktivore

- We are encountering mechanical fit issues with strobe assemblies, due to the stack of tolerances and multiple boards and components. We are hoping to resolve those issues fairly soon, at least partially, allowing upcoming deployment.
- 902101 - LRAUV Technology Development and Fleet Operations
 - Two amplified PAR sensors assembly underway
- Eric Martin
- Thom Maughan
 - Out of Office
 - March 29 -31
 - End of April camping
 - Vacation June 28 - July 12
- Mike McCann
 - 200105 - Core Navigation Data - MDUC
 - Continuing to monitor nightly cron job operations populating <https://emdb.shore.mbari.org>
 - 901009 - CANON
 - Updated auv-python software to process nav data if i2map CTD data fail to log
 - Reloaded partial CTD recorded i2map platform data into [stoqs_canon_fall2019](#)
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Systematically comparing data loaded into stoqs_auv_compare using Holoviews in Jupyter
 - Overhead
 - Moved office
 - Out of Office
 - March 27-28 Vacation days
- Rob McEwen
 - 300078 - DMO Divisional Support - AUV
 - Simulated one of Dave C.'s mid-Atlantic mapping missions
 - Still working on grt to octree conversion for the corresponding map
 - Debugging a pitch oscillation that occurs during steep climbs and dives.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Verified rangeClosing fix in simulation.
- Paul McGill
 - 901618 - Pelagic-Benthic Coupling
 - Still trying to fix the leaking SES fluorometer. Many things tried, non successful. We're considering more drastic measures.
 - 901700 - Acoustical Ocean Ecology
 - Reading reviewer's comments on Kelly's acoustics paper.
 - 901904 - Deep-Sea Coral Community Observatory
 - Edited Jim B's octopus garden paper.
 - 902304 - Piscivore Cam
 - Did clock accuracy testing of controller boards.
 - Wrote the deployment section of the controller code and it is being tested now.
 - Overhead
 - Still helping Facilities with the Test Tank ground system. Did some testing today and I think we know what to do next.
- Tom O'Reilly
 - 808012 - OPC IFCB
 - Installed new solid-state drive and latest Linux software onto IFCB, testing IFCB in preparation for power buoy integration.
 - 901513 - Targeted Sampling by AUVs

- Refining 'hotspot' software for use during Zhang/Rueda tracking experiment, using 'SMC version 2' sensor management computer. SMC-2 interface to Wave Glider vehicle differs from that of our standard SMC-1
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Hosted NOAA collaborator JC Clark, discussed flight coordination strategies
 - Discussing UAV imagery access through CENCOOS website, with Axiom contractors
 - Overhead
 - Working on Oceans paper with collaborators: *'Ocean-based carbon dioxide removal: Role of standards and best practices'*
- Mike Risi
 - Out of Office
 - Out of office on Fridays
- Paul Roberts
 - 901809 - Deep Sea Bioinspiration
 - EyeRIS (Moore Foundation) project wrapup
 - 902001 - Ventata 4k camera
 - Retro MxD camera with new corrector optics
 - 902004 - Planktivore
 - Compute Chassis assembly
 - Strobe electronics mounting
 - Pseudo-nitzschia ROI detector
 - 902204 - Scalable Robotics
 - MiniROV sled and frame
 - Laser line generator integration
 - 902306 - SINKER
 - Interface can mechanics
 - Dev board for firmware development
 - Out of Office
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- Brent Roman
 - 708165 - MERHAB19:ESP
 - Trying to solve mystery of sludge and particulate found inside Collection Syringe at NWFSC
 - 901205 - ESP SURF Center
 - Got ESP's SPR real-time analysis working with Bill Ussler's help
 - Helped Nadia diagnose numerous ESP 3G pump problems
 - Configured and tested cell communications in GLERL's ESP 3G autonomous boat
 - Debugged time limited sampling with help from Kevan Yamahara
- Carlos Rueda
 - 901502 - Passive Acoustic Sensing
 - Meetings. [Code](#) refactoring, adjustments, and some minor fixes.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - New dash ui (aka dash5): Regenerated Google Key API for TethysDash due to public exposure in dash5 code. Implemented a dash5 [fix](#). Slack exchanges. Assistance to Karen.
 - 902204 - Scalable Robotics
 - Implementing a [webapp](#) to expose LCM messages. It connects via websocket to Kevin B.'s lcm-websocket-server. Initial testing by replaying LCM log files.
 - Overhead
 - HR recruiter hiring.
 - Q1 check-in.

- Karen Salamy
 - 300057 - Mooring Maintenance
 - Monitoring the CTD cable issues on M1.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Spent a lot of time this week familiarizing myself with the Dash5 code. I have been addressing multiple issues on the new Dash5 in an effort to get the most critical issue resolved prior to the team's ECOHab deployments in April.
 - Worked with Jim Jeffers to move the newUI to the mbari-org/dash5 Github repository.
 - I built-up the GitHub issue tracker section of the mbari-org/dash5 with all of the prior bug issues, feature requests from the team's [Google Docs spreadsheet](#). Brian will plan to delete this spreadsheet in the near future and shift completely to the GitHub issue tracker.
 - Overhead
 - Q1 Check-in with Kevin.
 - Out of Office
 - Now in the office 3 days/week M, T, Th..
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - [Refactoring vampire-squid](#) to remove some technical debt. (it's about seven years old now)
 - 902002 - FathomNet
 - Updated FathomNet's firebase service (from Google) from a free tier to a paid tier that supports OpenID Connect.
 - Met with NOAA team members to start implementation of hosting/archiving user contributed images. Also discussed archiving versioned snapshots of the FathomNet database.
 - Met with Squiddle developers to continue the discussion of better FathomNet/Squiddle interoperation.
 - Revisiting [VARS to FathomNet export](#).
 - 902304 - Piscivore Cam
 - Wrote [an app](#) to [stage Piscivore video](#) to M3.
 - [Wrote code](#) to [register Psicivore videos](#) with VARS.
 - Out of Office
 - Mar 28 - Apr 3 - Out of office
 - May 8 - 16 - Out of office
 - Jul 28 - Aug 6 - Vacation
- Alana Sherman
 - 902208 - MiniROV Support
 - Continuing to prepare Mini
 - Debugged heading issue with clump
 - Finally got overlay working on second monitor
 - Set up sonardyne USBL with Winfrog and made sure the nav data is being fed into the main gui
 - Starting to write up documentation on starting up the system
- George Stern